

WHAT IS CLAIMED IS:

1. A method of transferring at least one numerical control (NC) program via a wide area network (WAN) comprising:

selecting the at least one NC program from a workstation;

5 notifying at least one central processing element of the selected at least one NC program via the WAN; and

transferring the selected at least one NC program across the WAN from the at least one central processing element to at least one machine tool controller, wherein the at least one machine tool controller is electrically connected to a machine tool.

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2. A method according to Claim 1, wherein selecting the at least one NC program comprises selecting the at least one NC program from a workstation electrically connected to the at least one central processing element via the Internet, and wherein transferring the selected at least one NC program comprises transferring the selected at least one NC program across the Internet.

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3. A method according to Claim 1, wherein transferring the selected at least one NC program comprises transferring the at least one NC program according to a predetermined protocol.

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4. A method according to Claim 1 further comprising transferring the selected at least one NC program from the at least one central processing element to at least one server processing element across the WAN before transferring the selected at least one NC program to the at least one machine tool controller, and wherein transferring the selected at least one NC program to the at least one machine tool controller comprises transferring the selected at least one NC program from the at least one server processing element to the at least one machine tool controller.

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5. A method according to Claim 4, wherein transferring the selected at least one NC program to the at least one machine tool controller comprises transferring the at least one NC program to the at least one machine tool controller according to a predetermined protocol.

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6. A method according to Claim 1, wherein selecting the at least one NC program comprises selecting at least one machine tool controller based upon at least one status of each machine tool controller selected from a group consisting of an operability status, a current workload status and a future workload status, and
5 thereafter selecting the at least one NC program.

7. A method according to Claim 1, wherein each central processing element comprises a database that stores the at least one NC program and that operates according to a predetermined platform, and wherein transferring the at least
10 one NC program comprises communicating with the database of each respective central processing element according to the respective platform in order to transfer the at least one NC program.

8. A method according to Claim 1, wherein each machine tool controller
15 is capable of executing the at least on NC program according to a predetermined format, and wherein transferring the selected at least one NC program comprises transferring the selected at least one NC program to the at least one machine tool controller according to the format of each respective machine tool controller.

9. A system for controlling at least one machine tool with at least one numerical control (NC) program delivered across a wide area network (WAN) comprising:
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at least one central processing element including the at least one NC program;
a workstation electrically connected to the at least one central processing
25 element via the WAN, wherein said workstation is capable of selecting the at least one NC program; and

at least one machine tool controller for receiving the selected at least one NC program across the WAN from said at least one central processing element, said at least one machine tool controller also adapted to control the at least one machine tool
30 based upon the selected at least one NC program.

10. A system according to Claim 9, wherein the WAN comprises the Internet.

11. A system according to Claim 9, wherein said at least one central processing element is capable of transferring the selected at least one NC program according to a predetermined protocol.

5 12. A system according to Claim 9 further comprising at least one server processing element electrically connected to said at least one central processing element via the WAN, wherein said at least one server processing element is also electrically connected to the at least one machine tool controller, wherein said at least one central processing element is capable of transferring the selected at least one NC
10 program to said at least one server processing element, and wherein said at least one server processing element is capable of transferring the selected at least one NC program to the at least one machine tool controller.

13. A system according to Claim 12, wherein said at least one server
15 processing element is capable of transferring the at least one NC program to the at least one machine tool controller according to a predetermined protocol.

14. A system according to Claim 9, wherein each central processing
20 element comprises a database that stores the at least one NC program and that operates according to a predetermined platform, and wherein said workstation is capable of communicating with the database of each respective central processing element according to the respective platform in order to transfer the at least one NC program.

25 15. A system according to Claim 9, wherein each machine tool controller is capable of executing the at least on NC program according to a predetermined format, and wherein said at least one central processing element is capable of transferring the selected at least one NC program to the at least one machine tool controller according to the format of each respective machine tool controller.

30 16. A computer program product for transferring at least one numerical control (NC) program via a wide area network (WAN), the computer program product comprising a computer-readable storage medium having computer-readable program

code portions stored therein, the computer-readable program code portions comprising:

a first executable portion for selecting the at least one NC program from a workstation;

5 a second executable portion for notifying at least one central processing element of the selected at least one NC program via the WAN; and

a third executable portion for transferring the selected at least one NC program across the WAN from the at least one central processing element to at least one machine tool controller, wherein the at least one machine tool controller is electrically
10 connected to at least one machine tool.

17. A computer program product according to Claim 16, wherein the at least one central processing element and the workstation are electrically connected via the Internet, and wherein said third executable portion is adapted to transfer the
15 selected at least one NC program across the Internet.

18. A computer program product according to Claim 16, wherein said third executable portion is adapted to transfer the selected at least one NC program according to a predetermined protocol.
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19. A computer program product according to Claim 16, wherein said third executable portion is adapted to transfer the selected at least one NC program to at least one server processing element, said computer program product further comprising a fourth executable portion for transferring the selected at least one NC
25 program from the at least one server processing element to the at least one machine tool controller.

20. A computer program product according to Claim 19, wherein said fourth executable portion is adapted to transfer the at least one NC program to the at
30 least one machine tool controller according to a predetermined protocol.

21. A computer program product according to Claim 16, wherein said first executable portion is adapted to select the at least one machine tool controller based upon at least one status of each machine tool controller selected from a group

consisting of an operability status, a current workload status and a future workload status, and thereafter select the at least one NC program.

22. A computer program product according to Claim 16, wherein each
5 central processing element comprises a database that stores the at least one NC program and that operates according to a predetermined platform, and wherein said third executable portion is adapted to communicate with the database of each respective central processing element according to the respective platform in order to transfer the at least one NC program.

23. A computer program product according to Claim 16, wherein each
10 machine tool controller is capable of executing the at least one NC program according to a predetermined format, and wherein said third executable portion is adapted to transfer the selected at least one NC program according to the format of each respective machine tool controller.

24. A method of controlling a plurality of machine tool controllers with at least one numerical control (NC) program, wherein the at least one NC program is stored by at least one central processing element, said method comprising:

20 selecting the at least one machine tool controller from the plurality of machine tool controllers, wherein the selecting is based upon at least one status of each machine tool controller selected from a group consisting of an operability status, a current workload status and a future workload status;

selecting the at least one NC program from a workstation; and

25 transferring the selected at least one NC program from the at least one central processing element to the selected at least one machine tool controller to thereby control the selected at least one machine tool controller.

25. A method according to Claim 24, wherein the workstation is connected
30 the at least one central processing element via a wide area network (WAN), and wherein transferring the selected at least one NC program comprises transferring the selected at least one NC program across the WAN.

26. A method according to Claim 25, wherein selecting the at least one NC program comprises selecting the at least one NC program from the workstation that is electrically connected to the at least one central processing element via the Internet, and wherein transferring the selected at least one NC program comprises transferring the selected at least one NC program across the Internet.

27. A method according to Claim 24, wherein transferring the selected at least one NC program comprises transferring the at least one NC program according to a predetermined protocol.

28. A method according to Claim 24 further comprising transferring the selected at least one NC program from the at least one central processing element to at least one server processing element before transferring the selected at least one NC program, and wherein transferring the selected at least one NC program comprises transferring the selected at least one NC program from the at least one server processing element to the at least one machine tool controller.

29. A method according to Claim 28, wherein transferring the selected at least one NC program comprises transferring the at least one NC program to the selected at least one machine tool controller according to a predetermined protocol.

30. A method according to Claim 24, wherein each central processing element comprises a database that stores the at least one NC program and that operates according to a predetermined protocol, and wherein transferring the at least one NC program comprises communicating with the database of each respective central processing element according to the respective protocol in order to transfer the at least one NC program.

31. A method according to Claim 24, wherein each machine tool controller is capable of executing the at least one NC program according to a predetermined format, and wherein transferring the selected at least one NC program comprises transferring the selected at least one NC program to the at least one machine tool controller according to the format of each respective machine tool controller.

32. A computer program product for controlling a plurality of machine tool controllers with at least one numerical control (NC) program, wherein the at least one NC program is stored by at least one central processing element, the computer program product comprising a computer-readable storage medium having computer-readable program code portions stored therein, the computer-readable program code portions comprising:

a first executable portion for selecting at least one machine tool controller from the plurality of machine tool controllers, wherein the second executable portion is adapted to select the at least one machine tool controller based upon at least one status of each machine tool controller selected from a group consisting of an operability status, a current workload status and a future workload status;

a second executable portion for selecting the at least one NC program from a workstation; and

a third executable portion for transferring the selected at least one NC program from the first processing element to the selected at least one machine tool controller.

33. A computer program product according to Claim 32, wherein the workstation is electrically connected to the at least one central processing element via a wide area network (WAN), and wherein said third executable portion is adapted to transfer the selected at least one NC program across the WAN.

34. A computer program product according to Claim 33, wherein the at least one central processing element and the workstation are electrically connected via the Internet, and wherein said third executable portion is adapted to transfer the selected at least one NC program across the Internet.

35. A computer program product according to Claim 32, wherein said third executable portion is adapted to transfer the selected at least one NC program according to a predetermined protocol.

36. A computer program product according to Claim 32, wherein said third executable portion is adapted to transfer the selected at least one NC program to at least one server processing element, said computer program product further comprising a fourth executable portion for transferring the selected at least one NC

program from the at least one server processing element to the selected at least one machine tool controller.

37. A computer program product according to Claim 36, wherein said
5 fourth executable portion is adapted to transfer the at least one NC program to the selected at least one machine tool controller according to a predetermined protocol.

38. A computer program product according to Claim 32, wherein each
10 central processing element comprises a database that stores the at least one NC program and that operates according to at least one platform, and wherein said third executable portion is adapted to communicate with the database of each respective central processing element according to the respective platform in order to transfer the
15 at least one NC program.

39. A computer program product according to Claim 32, wherein each
machine tool controller is capable of executing the at least on NC program according to a predetermined format, and wherein said third executable portion is adapted to transfer the selected at least one NC program to the at least one machine tool
20 controller according to the format of each respective machine tool controller.